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SIR,

*Office of Ordnance, 6th May, 1840.*

HAVING laid before the Master-General and Board a letter from the Assistant-Inspector of the Royal Carriage Department, dated the 29th ult., describing an improvement in the mode of tinning the copper linings of powder cases, suggested by Thomas Weeks, foreman in the department,

I am directed to acquaint you the Master-General and Board are pleased to grant Mr. Weeks a donation of ten pounds, to be paid by the storekeeper at Woolwich.

I am, Sir, &amp;c. &amp;c.

*The Inspector of the Royal Carriage  
Department, Woolwich.*

R. BYHAM.

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No. VII.

## ORGAN-VALVE.

*The SILVER MEDAL was presented to Mr. WILLIAM HILL, 12 Tottenham Court, New Road, for his Valve for the Large Pipes of Organs ; a Model of which has been placed in the Society's Repository.*

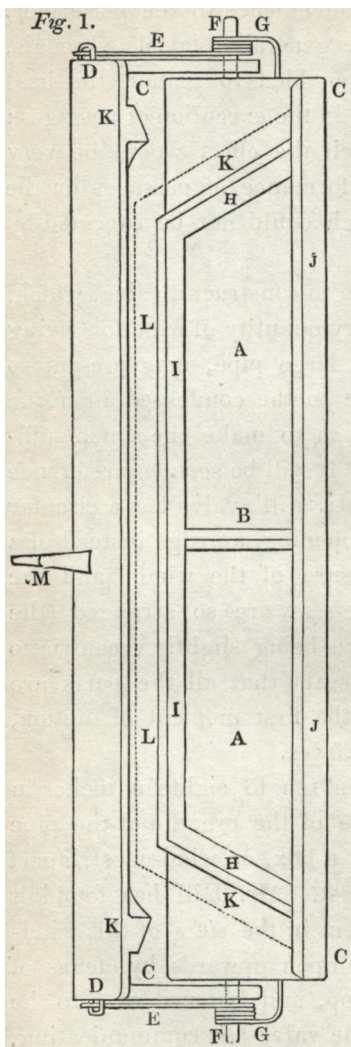
THE ordinary organ-valves resemble the common clack-valve, *i. e.* hinged at one end ; and as they open inwards in the wind-chest, the direct resistance of the condensed air, to be overcome by the action of the key in opening the valve, is very considerable. In large organs the quantity of wind required for the supply of the pipes of the last octave is very great, and their valves being pro-

portionably large, the resistance of their keys to the finger is a very sensible inconvenience to the performer. It is true that these pipes are generally played by pedals, whereby the performer is enabled to sustain the bass while his hands are engaged in the execution of passages; but there are cases in which the effect would be very much heightened by the performance of passages on the keys of the pedal-pipes, which could not be executed by the feet on the pedals.

Mr. Hill's object has been to construct a valve, which, while it supplies the necessary quantity of wind for giving a full and steady tone to a large pipe, may present so small a surface of resistance to the condensed air in the direction in which it opens as to make the touch sufficiently light for the finger. It will be seen, by reference to the annexed figure, that Mr. Hill's valve has a circular motion, so as to present, in opening, an edge instead of a broad surface to the pressure of the wind; and the leathered faces of the valve-seat are so arranged (the centre of motion of the valve being slightly eccentric to the curvature of the valve-seat) that all the parts are thrown out of contact at the first moment of motion, and there is no friction of surfaces.

The valves may vary from ten to eighteen inches in length, according to the size of the organ and the pipe required, and are placed in a box, or wind-chest, apart from the common wind-chest. Mr. Hill has found it most convenient to place them in the *sides* of this wind-chest, so that the valves may open upwards by means of wires passing through the top, and fastened each to the valve-arm *m*, the bottom of the valve-box communicating, through an opening in the side of the wind-chest, with the channel of its pipe.

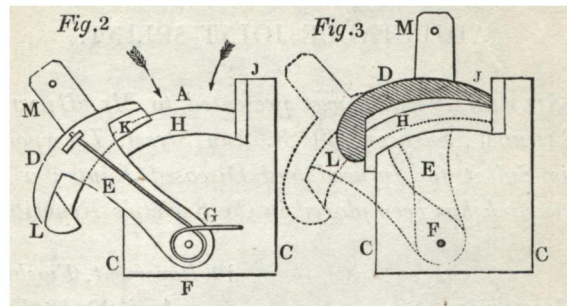
Fig. 1. — *AA*, the aperture of the air-passage; *B* is a thin-edged bar, put in for support; *cc*, the sides of the air-passage, which projects into the wind-chest; *DD*, the valve opened more than sufficient, is supported by radial bars *EE* on the centre pins *FF*. *GG*, the springs which close it. The end view (fig. 2) also shews the valve open.



In fig. 3 the valve is shut, and in section to shew its fitting. The two ends of the valve-seat *HH* are made sloping, as shewn in fig. 1, for the purpose of receiving the valve; these, and the side *I*, stand out like a short neck, and are covered with leather on their outsides; the fourth side *J* stands out still more, and is covered with leather on the inside. The inside of the valve *D* has three bars, *KK* and *L*, made to correspond with *HH* and *I*, their insides being fitted accurately to the outsides

*HH* and *I* of the aperture; their place, when shut, is shewn in fig. 1 by dotted lines *KKL*; at the same time

the front edge of the valve *D* fits against the inside of *J*, as at *J*, in fig. 3. Thus the fitting of the valve is all sideways at right angles to the pressure of the wind.



Although the valve fits close around the neck when it is shut, they part immediately from each other on opening, in consequence of their sloping ends, and also the centre of motion being placed a little aside for that purpose, as shewn in fig. 3. *m* is the valve-arm to connect with its key. The whole of this portion, excepting the radial arms *EE*, which do not require it, are made of the same wood, and the same way of the grain, as complete as if cut out of the solid ; therefore, when once well fitted, they will always remain so.

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Mr. Hill has applied these valves to various organs during the last twelve years. Some which he put into the organ of Westminster Abbey, eighteen years ago, are still quite sound. In the organ which he lately built for the church of Stratford-on-Avon these valves supply six stops of the last octave. Mr. Hill has also applied them in the great organ of the Town Hall of Birmingham, and the organ of York Minster.